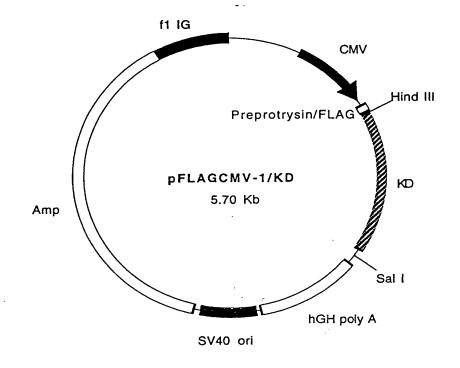


Fig. 1



f1 IG Preprotrysin/FLAG Hind III Fig. 3 pFLAGCMV-1/PD PD 5.70 Kb Amp Sall hGH poly A SV40 ori

Fig. 2

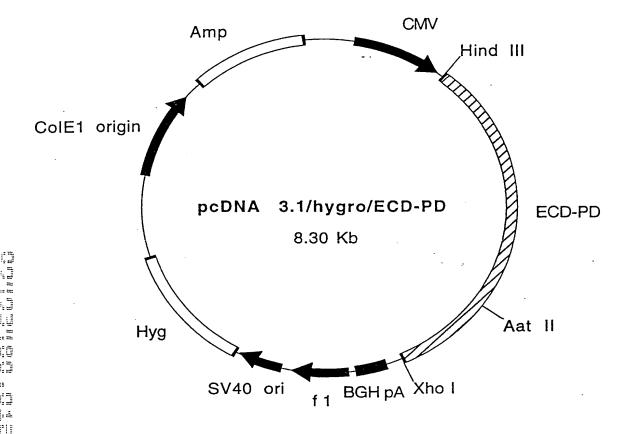


Fig. 5

pcDNA3.1hyg/ECD-PD expression

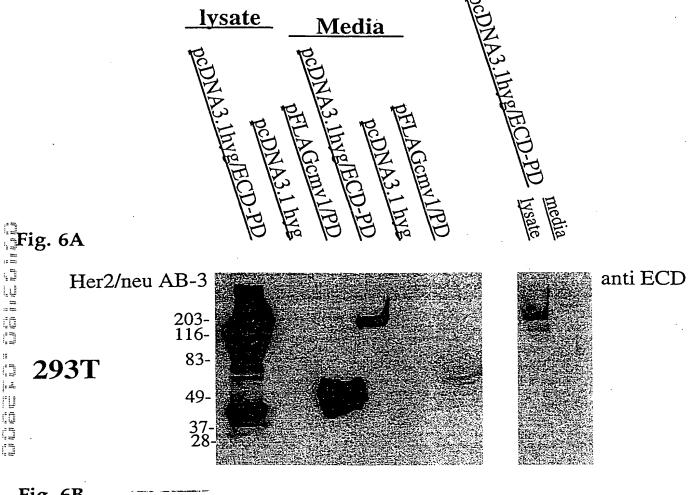


Fig. 6B

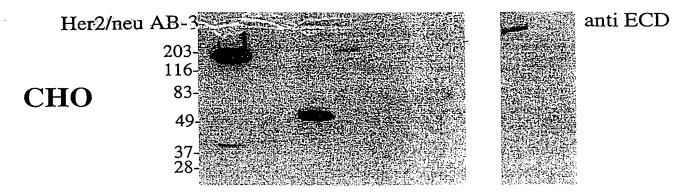


Fig. 7 (SEQ ID NO: 1)

10		20
Met Glu Leu Ala Ala Leu Cys Arg Trp Gly	Leu Leu Leu Ala Leu Leu Pro Pro Gly	Ala 20
Ala Ser Thr Gin Val Cys Thr Gly Thr Asp	Met Lys Leu Arg Leu Pro Ala Ser Pro	Glu 40
Thr His Leu Asp Met Leu Arg His Leu Tyr	r Gin Gly Cys Gin Val Val Gin Gly Asn	Leu 60
Glu Leu Thr Tyr Leu Pro Thr Asn Ala Ser		
Gin Giy Tyr Val Leu Ile Ala His Asn Gin	n Val Arg Gin Val Pro Leu Gin Arg Leu	Arg 100
110	0	120
Ile Val Arg Gly Thr Gln Leu Phe Glu Asp	o Asn Tyr Ala Leu Ala Val Leu Asp Asn	Gly . 120
Asp Pro Leu Asn Asn Thr Thr Pro Val Thr	r Gly Ala Ser Pro Gly Gly Leu Arg Glu	Leu 140
Gin Leu Arg Ser Leu Thr Glu Ile Leu Lys	s Gly Gly Val Leu IIe Gln: Arg Asn Pro	GIn 160
Leu Gys Tyr Gin Asp Thr Ile Leu Trp Lys		
Leu the Leu lie Asp Thr Asn Arg Ser Arg	g Ala Cys His Pro Cys Ser Pro Met Cys	Lys 200
210	0	220
Gly Ser Arg Cys Trp Gly Glu Ser Ser Glu		
Ala Bly Gly Cys Ala Arg Cys Lys Gly Pro		
Ala Ala Gly Cys Thr Gly Pro Lys His Ser		
Ser Gly Ite Cys Glu Leu His Cys Pro Ala		
Ser Met Pro Asn Pro Glu Gly Arg Tyr Thr		
310	0	320
Tyriash Tyr Leu Ser Thr Asp Val Gly Ser	c Cvs Thr Leu Val Cvs Pro Leu His Asn	GIn 320
Glu Val Thr Ala Glu Asp Gly Thr Gln Arg		
Val Cys Tyr Gly Leu Gly Met Glu His Leu		
Ile Gin Glu Phe Ala Gly Cys Lys Lys Ile		
Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala	a Pro Leu Gin Pro Giu Gin Leu Gin Val	Phe 400
410	0	420
Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu	u Tyr Ile Ser Ala Trp Pro Asp Ser Leu	Pro 420
Asp Leu Ser Val Phe Gin Asn Leu Gin Val		Ala 440
Tyr Ser Leu Thr Leu Gin Gly Leu Gly Ile	e Ser Trp Leu Gly Leu Arg Ser Leu Arg	Glu 460
Leu Gly Ser Gly Leu Ala Leu Ile His His		
Pro Trp Asp Gin Leu Phe Arg Asn Pro His	s Gin Ala Leu Leu His Thr Ala Asn Arg	Pro 500
510	0	520
		- 555
	a Cys His Gin Leu Cys Ala Arg Gly His	
Trp Gly Pro Gly Pro Thr Gln Cys Val Asr	in Cys Ser Gin Phe Leu Arg Gly Gin Glu	Cys 540
Trp Gly Pro Gly Pro Thr Gln Cys Val Asr Val Glu Glu Cys Arg Val Leu Gln Gly Leu	in Cys Ser Gin Phe Leu Arg Gly Gin Glueu Pro Arg Glu Tyr Val Asn Ala Arg His	Cys 540 Cys 560
Trp Gly Pro Gly Pro Thr Gln Cys Val Asr	in Cys Ser Gin Phe Leu Arg Giy Gin Glu iu Pro Arg Giu Tyr Val Asn Ala Arg His n Asn Giy Ser Val Thr Cys Phe Giy Pro	Cys 540 Cys 560 Glu 580

Fig. 7 (SEQ ID NO: 1)

	610	620
	Tyr Met Pro Ile Trp Lys Phe Pro Asp Glu	
	n Cys Thr His Ser Cys Val Asp Leu Asp Asp • Pro Leu Thr Ser Ile Ile Ser Ala Val Val	
	Val Phe Gly Ite Leu Ite Lys Arg Arg Gln	
	Leu Leu Gin Giu Thr Giu Leu Vai Giu Pro	
Lys he alg Lys lyl Hir Het alg alg		
	710	720
Thr Pro Ser Gly Ala Met Pro Asn Gln	Ala Gin Met Arg IIe Leu Lys Glu Thr Glu	
Arg Lys Val Lys Val Leu Gly Ser Gly	Ala Phe Gly Thr Val Tyr Lys Gly Ile Trp	
Pro Asp Gly Glu Asn Val Lys Ile Pro	Val Ala Ile Lys Val Leu Arg Glu Asn Thr	
Pro Lys Ala Asn Lys Glu Ile Leu Asp	o Glu Ala Tyr Val Met Ala Gly Val Gly Ser	
Tyr Val Ser Arg Leu Leu Gly Ile Cys	Leu Thr Ser Thr Val Gln Leu Val Thr Gln	Leu 800
and the state of t	810	820
Mat Day Tra Cly Cool ov Lov App His	Val Aca Clic Aca Aca Cly Aca Leu Cly Ser	Gin 820
	Val Arg Glu Asn Arg Gly Arg Leu Gly Ser Ala Lys Gly Met Ser Tyr Leu Glu Asp Val	
	An Val Leu Val Lys Ser Pro Asn His Val	
	i Leu Asp Ile Asp Glu Thr Glu Tyr His Ala	•
	: Ala Leu Glu Ser IIe Leu Arg Arg Arg Phe	
GIY EIY LYS VOI FIO HE LYS II P HE		,
Q.	910	920
The State Country Val. Tan Son Turn Char	Val The Val Tag Chi Law Mat The Pho Chi	Ala 920
	Val Thr Val Trp Glu Leu Met Thr Phe Gly	
	ı Glu IIe Pro Asp Leu Leu Glu Lys Gly Glu Asp Val Tyr Met IIe Met Val Lys Cys Trp	
	: Arg Glu Leu Val Ser Glu Phe Ser Arg Met	
	Gin Asn Glu Asp Leu Gly Pro Ala Ser Pro	
. 3 44.		
	1010	1020
Asp Ser Thr Phe Tyr Arg Ser Leu Leu	Glu Asp Asp Asp Met Gly Asp Leu Val Asp	Ala 1020
	Phe Phe Cys Pro Asp Pro Ala Pro Gly Ala	
	Ser Ser Thr Arg Ser Gly Gly Gly Asp Leu	Thr 1060
Leu Gly Leu Glu Pro Ser Glu Glu Glu	Ala Pro Arg Ser Pro Leu Ala Pro Ser Glu	
Ala Gly Ser Asp Val Phe Asp Gly Asp	Leu Gly Met Gly Ala Ala Lys Gly Leu Gin	Ser 1100
	1110	1120
La Dan The Hig And Dan Con Boo Lo.	Gin Arg Tyr Ser Glu Asp Pro Thr Val Pro	Leu 1120
	Pro Leu Thr Cys Ser Pro Gin Pro Giu Tyr	
And Cla Poo Aso Vol Aco Poo Cla Poo	Pro Ser Pro Arg Glu Gly Pro Leu Pro Ala	
Ash Gin Fro Asp you Arg Fro Gin Fro	Pro Lys Thr Leu Ser Pro Gly Lys Asn Gly	
Value Ash Val Phe Ala Phe Gly Cly	· Ala Val Glu Asn Pro Glu Tyr Leu Thr Pro	
ANT TAR WELL AND THE GIA GIA		1220
	1210	
Chi Chi Ala Ala Pea Gla Pea His Pea	Pro Pro Ala Phe Ser Pro Ala Phe Asp Asr	Leu 1220
Tur Tur Tro Aso Gin Aso Pro Pro Giu	Arg Gly Ala Pro Pro Ser Thr Phe Lys Gly	
Pro Thr Ala Giu Asn Pro Giu Tyr Leu	Gly Leu Asp Val Pro Val • • 125	_

Fig. 8 (SEQ ID NO: 2)

	10	20
Ala Gly Thr Gln Val Cys Thr Gly Thr Thr His Leu Asp Met Leu Arg His Leu Glu Leu Thr Tyr Val Pro Ala Asn Ala	Gly Phe Leu Leu Ala Leu Leu Pro Pro Gl Asp Met Lys Leu Arg Leu Pro Ala Ser Pr Tyr Gln Gly Cys Gln Val Val Gln Gly As Ser Leu Ser Phe Leu Gln Asp Ile Gln Gl Gln Val Lys Arg Val Pro Leu Gln Arg Le	o Glu 40 in Leu 60 u Val 80
	Asp Lys Tyr Ala Leu Ala Val Leu Asp As	
Leu Gin Leu Arg Ser Leu Thr Glu Ile Gin Teu Cys Tyr Gin Asp Met Val Leu	Thr Pro Gly Arg Thr Pro Glu Gly Leu Ar Leu Lys Gly Gly Val Leu Ile Arg Gly As I Trp Lys Asp Val Phe Arg Lys Asn Asn Gli I Ser Arg Ala Cys Pro Pro Cys Ala Pro Ala	n Pro 160 n Leu 180
	210	220
Cys. Thr Ser Gly Cys Ala Arg Cys Lys Cys. Ala Ala Gly Cys Thr Gly Pro Lys His. Ser Gly Ile Cys Glu Leu His Cys	Pro Glu Asp Cys Gln IIe Leu Thr Gly Th Gly Arg Leu Pro Thr Asp Cys Cys His Glo His Ser Asp Cys Leu Ala Cys Leu His Ph Pro Ala Leu Val Thr Tyr Asn Thr Asp Th Tyr Thr Phe Gly Ala Ser Cys Val Thr Th	u Gln 240 e Asn 260 ir Phe 280
	310	320
Ginggiu Vai Thr Ala Glu Asp Gly Thr Arggivai Cys Tyr Gly Leu Gly Met Glu Asn Vai Gin Glu Phe Asp Gly Cys Lys	Gly Ser Cys Thr Leu Val Cys Pro Pro As Gln Arg Cys Glu Lys Cys Ser Lys Pro Cy His Leu Arg Gly Ala Arg Ala Ile Thr Se Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Ile Ala Pro Leu Arg Pro Glu Gln Leu Gli	s Ala 340 er Asp 360 o Glu 380 n Val 400
	410	420
Arg Asp Leu Ser Val Phe Gin Asn Leu Ala Tyr Ser Leu Thr Leu Gin Gly Leu Glu Leu Gly Ser Gly Leu Ala Leu Ile	Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Se u Arg Ile Ile Arg Gly Arg Ile Leu His As u Gly Ile His Ser Leu Gly Leu Arg Ser Le His Arg Asn Ala His Leu Cys Phe Val Hi n Pro His Gln Ala Leu Leu His Ser Gly As 510	sp Gly 440 ou Arg 460 s Thr 480
Cys Trp Gly Pro Gly Pro Thr Gln Cys Cys Val Glu Glu Cys Arg Val Trp Lys Cys Leu Pro Cys His Pro Glu Cys Gln	Leu Val Cys Asn Ser Leu Cys Ala His Gl s Val Asn Cys Ser His Phe Leu Arg Gly Gl s Gly Leu Pro Arg Glu Tyr Val Ser Asp Ly n Pro Gln Asn Ser Ser Glu Thr Cys Phe Gl a His Tyr Lys Asp Ser Ser Ser Cys Val Al	n Glu 540 : vs Arg 560 ly Ser 580

Fig. 8 (SEQ ID NO: 2)

610	20
Cys Pro Ser Gly Val Lys Pro Asp Leu Ser Tyr Met Pro Ile Trp Lys Tyr Pro Asp G Glu Gly Ile Cys Gln Pro Cys Pro Ile Asn Cys Thr His Ser Cys Val Asp Leu Asp G Arg Gly Cys Pro Ala Glu Gln Arg Ala Ser Pro Val Thr Phe Ile Ile Ala Thr Val V Gly Val Leu Leu Phe Leu Ile Leu Val Val Val Val Gly Ile Leu Ile Lys Arg Arg A Gln Lys Ile Arg Lys Tyr Thr Met Arg Arg Leu Leu Gln Glu Thr Glu Leu Val Glu P 710	Glu 640 /al 660 rg 680
Leu Thr Pro Ser Gly Ala Met Pro Asn Gln Ala Gln Met Arg IIe Leu Lys Glu Thr Gleu Arg Lys Val Lys Val Leu Gly Ser Gly Ala Phe Gly Thr Val Tyr Lys Gly IIe To IIe Pro Asp Gly Glu Asn Val Lys IIe Pro Val Ala IIe Lys Val Leu Arg Glu Asn To Ser Pro Lys Ala Asn Lys Glu IIe Leu Asp Glu Ala Tyr Val Met Ala Gly Val Gly So Pro Tyr Val Ser Arg Leu Leu Gly IIe Cys Leu Thr Ser Thr Val Gln Leu Val Thr Go 810	rp 740 hr 760 Ser 780
Leu Met Pro Tyr Gly Cys Leu Leu Asp His Val Arg Glu His Arg Gly Arg Leu Gly S Glin Asp Leu Leu Asn Trp Cys Val Gln Ile Ala Lys Gly Met Ser Tyr Leu Glu Asp V Arg Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys Ser Pro Asn His V Lys He Thr Asp Phe Gly Leu Ala Arg Leu Leu Asp Ile Asp Glu Thr Glu Tyr His A Asp Gly Gly Lys Val Pro Ile Lys Trp Met Ala Leu Glu Ser Ile Leu Arg Arg P 910	/al 840 /al 860 Na 880
The His Gin Ser Asp Val Trp Ser Tyr Giy Val The Val Trp Glu Leu Met The Phe Gala Lys Pro Tyr Asp Giy Ile Pro Ala Arg Glu Ile Pro Asp Leu Leu Glu Lys Giy Garg Leu Pro Gin Pro Pro Ile Cys The Ile Asp Val Tyr Met Ile Met Val Lys Cys The Het Asp Ser Glu Cys Arg Pro Arg Phe Arg Glu Leu Val Ser Glu Phe Ser Arg Mala Arg Asp Pro Gin Arg Phe Val Val Ile Gin Ash Glu Asp Leu Gly Pro Ser Ser Page 1010	ilu 940 Irp 960 1et 980
Met Asp Ser Thr Phe Tyr Arg Ser Leu Leu Glu Asp Asp Asp Met Gly Asp Leu Val A Ala Glu Glu Tyr Leu Val Pro Gln Gln Gly Phe Phe Ser Pro Asp Pro Thr Pro Gly T Gly Ser Thr Ala His Arg Arg His Arg Ser Ser Ser Thr Arg Ser Gly Gly Gly Glu L Thr Leu Gly Leu Glu Pro Ser Glu Glu Gly Pro Pro Arg Ser Pro Leu Ala Pro Ser Gly Ala Gly Ser Asp Val Phe Asp Gly Asp Leu Ala Met Gly Val Thr Lys Gly Leu Gli 1110	Leu 1060 Glu 1080
Ser Leu Ser Pro His Asp Leu Ser Pro Leu Gin Arg Tyr Ser Giu Asp Pro Thr Leu F Leu Pro Pro Giu Thr Asp Giy Tyr Val Ala Pro Leu Ala Cys Ser Pro Gin Pro Giu I Val Asn Gin Ser Giu Vai Gin Pro Gin Pro Pro Leu Thr Pro Giu Giy Pro Leu Pro F Val Arg Pro Ala Giy Ala Thr Leu Giu Arg Pro Lys Thr Leu Ser Pro Giy Lys Asn C Val Val Lys Asp Val Phe Ala Phe Giy Giy Ala Val Giu Asn Pro Giu Tyr Leu Val F	Pro 1160 Gly 1180
Arg Glu Gly Thr Ala Ser Pro Pro His Pro Ser Pro Ala Phe Ser Pro Ala Phe Asp A Leu Tyr Tyr Trp Asp Gln Asn Ser Ser Glu Gln Gly Pro Pro Pro Ser Asn Phe Glu Thr Pro Thr Ala Glu Asn Pro Glu Tyr Leu Gly Leu Asp Val Pro Val	Asn 1220 Gly 1240 1258

Fig. 9 (SEQ ID NO: 3)

Met Glu Leu Ala Ala Leu Cys Arg Trp Gly Leu Leu Leu Ala Leu Leu Pro Pro Gly Ala Ala Ser Thr Gln Val Cys Thr Gly Thr Asp Met Lys Leu Arg Leu Pro Ala Ser Pro Glu Hor His Leu Asp Met Leu Arg His Leu Tyr Gln Gly Cys Gln Val Val Gln Gly Asn Leu Gla Leu Thr Tyr Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gln Asp Jie Gln Glu Val Gln Gly Tyr Val Leu Ille Ala His Asn Gln Val Arg Gln Val Pro Leu Gln Arg Leu Arg Gln Val Yro Leu Ille Ala His Asn Gln Val Arg Gln Val Pro Leu Gln Arg Leu Arg Gln Val Arg Gly Thr Gln Leu Phe Glu Asp Asn Tyr Ala Leu Ala Val Leu Asp Asn Gly Asp Pro Leu Asn Asn Thr Thr Pro Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu Gln Leu Arg Ser Leu Thr Glu Ille Leu Lys Gly Gly Val Leu Ille Gln Arg Asn Pro Gln Leu Cys Tyr Gln Asp Thr Ille Leu Trp Lys Asp Ille Phe His Lys Asn Asn Gln Leu Ala Leu Thr Leu Ille Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 210 220 220 220 220 220 220 220 220 220
Ala Ser Thr Gin Vai Cys Thr Giy Thr Asp Met Lys Leu Arg Leu Pro Ala Ser Pro Giu Thr His Leu Asp Met Leu Arg His Leu Tyr Gin Giy Cys Gin Vai Vai Gin Giy Asn Leu Giu Leu Thr Tyr Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gin Asp Ile Gin Giu Vai Gin Giy Tyr Vai Leu Ile Ala His Asn Gin Vai Arg Gin Vai Pro Leu Gin Arg Leu Arg Ile Vai Arg Giy Thr Gin Leu Pne Giu Asp Asn Tyr Ala Leu Ala Vai Leu Asp Asn Giy Asp Pro Leu Asn Asn Thr Thr Pro Vai Thr Giy Ala Ser Pro Giy Giy Leu Arg Giu Leu Gin Leu Arg Ser Leu Thr Giu Ile Leu Lys Giy Giy Vai Leu Ile Gin Arg Asn Pro Gin Leu Cys Tyr Gin Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn Asn Gin Leu Ala Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 200 210 220 13 240 Ala Ala Giy Cys Thr Giy Fro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His Ala And Giy Cys Thr Giy Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Sen Het Pro Asn Pro Giu Giy Arg Tyr Thr Phe Giy Ala Ser Cys Vai Thr Ala Cys Pro 310 320 310 320 310 320 310 320 310 320 310 320 310 320 310 320 310 320 310 320 310 320 310 320 310 320 310 320 310 320 310 320 340 341 340 340 341 340 341 340 341 340 341 340 340 341 340 340 341 340 341 340 341 340 341 340 341 340 341 340 341 340 341 340 341 340 341 340 341 340 341 340 340 340 341 340 340 340 341 340 341 340 340 340 340 340 340 340 340 340 340
Giu Leu Thr Tyr Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gin Asp Ile Gin Giu Vai Gin Giy Tyr Val Leu Ile Ala His Asn Gin Vai Arg Gin Vai Pro Leu Gin Arg Leu Arg 110 120 110 120 110 120 110 120 110 120 110 120 110 120 110 120
Gin Giy Tyr Val Leu Ile Ala His Asn Gin Val Arg Gin Val Pro Leu Gin Arg Leu Arg 110 110 1120 Ile Val Arg Giy Thr Gin Leu Phe Giu Asp Asn Tyr Ala Leu Ala Val Leu Asp Asn Giy Asp Pro Leu Asn Asn Thr Thr Pro Val Thr Giy Ala Ser Pro Giy Giy Leu Arg Giu Leu Gin Leu Arg Ser Leu Thr Giu Ile Leu Lys Giy Giy Val Leu Ile Gin Arg Asn Pro Gin 160 Leu Cys Tyr Gin Asp Thr Ile Leu Lys Giy Giy Val Leu Ile Gin Arg Asn Pro Gin 160 Leu Cys Tyr Gin Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn Asn Gin Leu Ala Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 200 210 220 210 220 210 220 220
Ile Val Arg Giy Thr Gin Leu Phe Giu Asp Asn Tyr Ala Leu Ala Val Leu Asp Asn Giy Asp Pro Leu Asn Asn Thr Thr Pro Val Thr Giy Ala Ser Pro Giy Giy Leu Arg Giu Leu 140 Gin Leu Arg Ser Leu Thr Giu Ile Leu Lys Giy Giy Val Leu Ile Gin Arg Asn Pro Gin 160 Leu Cys Tyr Gin Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn Asn Gin Leu Ala 180 Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 200 210 220 Giy Ser Arg Cys Trp Giy Giu Ser Ser Giu Asp Cys Gin Ser Leu Thr Arg Thr Val Cys 240 Ala Big Giy Cys Ala Arg Cys Lys Giy Pro Leu Pro Thr Asp Cys Cys His Giu Gin Cys 240 Ala Big Giy Cys Thr Giy Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Ser Big Ile Cys Giu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Giu 280 Ser Big Ile Cys Giy Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Giu 280 310 320 310 320 320 310 320 320 310 320 320 340 Van Cys Tyr Giy Leu Giy Met Giu His Leu Arg Giu Val Arg Ala Val Thr Ser Ala Asn 360 Giu Ha Giu Phe Ala Giy Cys Lys Lys Ile Phe Giy Ser Leu Ala Phe Leu Pro Giu Ser 380 Phe Asp Giy Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Giu Gin Leu Gin Val Phe 410 410 Giu Thr Leu Giu Giu Ile Thr Giy Tyr Leu Tyr Ile Ser Ala Tirp Pro Asp Ser Leu Pro 420 Asp Leu Ser Val Phe Gin Asn Leu Gin Val Ile Arg Giy Arg Ile Leu His Asn Giy Ala 440 Tyr Ser Leu Thr Leu Gin Giu Leu Giy Ile Ser Trp Leu Giy Leu His Asn Giy Ala 440 Pro Trp Asp Gin Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro 500
Ile Val Arg Gly Thr Gin Leu Phe Glu Asp Asn Tyr Ala Leu Ala Val Leu Asp Asn Gly Asp Pro Leu Asn Asn Thr Thr Pro Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu Gin Leu Arg Ser Leu Thr Glu Ile Leu Lys Gly Gly Val Leu Ile Gin Arg Asn Pro Gin 160 Leu Cys Tyr Gin Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn Asn Gin Leu Ala 180 Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 200 210 220 Gly. Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gin Ser Leu Thr Arg Thr Val Cys Ala-Bia Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gin Cys Ala-Bia Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Ser-Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu Ser-Bet Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln 320 310 320 Tyr Asn Tyr Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ille Glin Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe-Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gly Rer Leu Ala Phe Leu Pro Glu Ser 380 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro 420 Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg Gly Arg—Ile Leu His Asn Gly Ala 440 Tyr Ser Leu Thr Leu Glin Gly Leu Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu 440 Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr Ala Asn Arg Pro 500
Asp Pro Leu Asn Asn Thr Thr Pro Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu 140 Gln Leu Arg Ser Leu Thr Glu Ile Leu Lys Gly Gly Val Leu Ile Gln Arg Asn Pro Gln 160 Leu Cys Tyr Gln Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn Asn Gln Leu Ala 180 Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 200 210 220 10 220 200 210 220 200 210 220 200 210 220 200 220
Asp Pro Leu Asn Asn Thr Thr Pro Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu 140 Gln Leu Arg Ser Leu Thr Glu Ile Leu Lys Gly Gly Val Leu Ile Gln Arg Asn Pro Gln 160 Leu Cys Tyr Gln Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn Asn Gln Leu Ala 180 Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 200 210 220 10 220 200 210 220 200 210 220 200 210 220 200 220
Gin Leu Arg Ser Leu Thr Giu Ite Leu Lys Giy Giy Vai Leu Ite Gin Arg Asn Pro Gin Leu Cys Tyr Gin Asp Thr Ite Leu Trp Lys Asp Ite Phe His Lys Asn Asn Gin Leu Ala Leu Thr Leu Ite Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 200 210 220 Gly, Ser Arg Cys Trp Giy Giu Ser Ser Giu Asp Cys Gin Ser Leu Thr Arg Thr Vai Cys Ala-Giy Giy Cys Ala Arg Cys Lys Giy Pro Leu Pro Thr Asp Cys Cys His Giu Gin Cys Ala-Giy Giy Cys Thr Giy Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Seri-Giy Ite Cys Giu Leu His Cys Pro Ala Leu Vai Thr Tyr Asn Thr Asp Thr Phe Giu 280 Seri-Giy Ite Cys Giu Leu His Cys Pro Ala Leu Vai Thr Tyr Asn Thr Asp Thr Phe Giu 280 Seri-Giy Ite Cys Giu Leu His Cys Pro Ala Leu Vai Thr Tyr Asn Thr Asp Thr Phe Giu 310 320 Tyr Asn Tyr Leu Ser Thr Asp Vai Giy Ser Cys Thr Leu Vai Cys Pro Leu His Asn Gin 320 Yai Cys Tyr Giy Leu Giy Met Giu His Leu Arg Giu Lys Cys Ser Lys Pro Cys Ala Arg 340 Vai Cys Tyr Giy Leu Giy Met Giu His Leu Arg Giu Vai Arg Ala Vai Thr Ser Ala Asn 360 Ite Gin Giu Phe Ala Giy Cys Lys Lys Ite Phe Giy Ser Leu Ala Phe Leu Pro Giu Ser Phe Asp Giy Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Giu Gin Leu Gin Vai Phe 420 Giu Thr Leu Giu Giu Ite Thr Giy Tyr Leu Tyr Ite Ser Ala Trp Pro Asp Ser Leu Pro Asp Leu Ser Vai Phe Gin Asn Leu Gin Vai Ite Arg Giy Arg—Ite Leu His Asn Giy Ala Tyr Ser Leu Thr Leu Gin Giy Leu Giy Ite Ser Trp Leu Giy Leu Arg Ser Leu Arg Giu 440 Tyr Ser Leu Thr Leu Gin Giy Leu Giy Ite Ser Trp Leu Giy Leu Arg Ser Leu Arg Giu 440 Tyr Ser Leu Thr Leu Gin Giy Leu Giy Ite Ser Trp Leu Giy Leu Arg Ser Leu Arg Giu 440 440 Fro Trp Asp Gin Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro
Leu Cys Tyr Gin Asp Thr Ile Leu Trp Lys Asp IIe Phe His Lys Asn Asn Gin Leu Ala Leu Thr Leu IIe Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 210 220 Gly Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gin Ser Leu Thr Arg Thr Val Cys Ala Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gin Cys 240 Ala Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gin Cys 240 Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Ser Gly IIe Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu 280 Ser Gly IIe Cys Glu Leu His Cys Pro Ala Leu Val Thr Ser Cys Val Thr Ala Cys Pro 310 320 10 320 11 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gin 320 320 131 320 141 Tyr Asn Tyr Leu Glu Asp Gly Thr Gin Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gin Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Asp Leu Ser Val Phe Gin Asn Leu Gin Val Ile Arg Gly Arg—Tie Leu His Asn Gly Ala 410 420 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr IIe Ser Ala Trp Pro Asp Ser Leu Pro Asp Leu Ser Val Phe Gin Asn Leu Gin Val Ile Arg Gly Arg—Tie Leu His Asn Gly Ala 440 Tyr Ser Leu Thr Leu Gin Gly Leu Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu 460 Leu Gly Ser Gly Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val 480 Pro Trp Asp Gin Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr Ala Asn Arg Pro
Leu Thr Leu IIe Asp Thr Ash Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys 210 220 Gly Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys Ala Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys 240 Ala Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys 240 Ala Gly Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Ash His 260 Ser Gly IIe Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Ash Thr Asp Thr Phe Glu 280 Ser Flet Pro Ash Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 310 320 Tyr Ash Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Ash Gln 320 320 Tyr Ash Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Cys Ala Arg 340 340 340 340 340 340 340 34
Gly. Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gin Ser Leu Thr Arg Thr Val Cys Ala-Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gin Cys Ala-Gly Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Seri-Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu 280 Seri-Met Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Glin 320 Glu-Val Thr Ala Glu Asp Gly Thr Gin Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val-Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile-Gin Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe-Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Glu Gln Leu Gln Val Phe 410 420 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro 420 Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg Gly Arg—Tile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu Gly Ile Ser Trp Leu Gly Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu Gly Ile Ser Trp Leu Gly Leu His Thr Val Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr Ala Asn Arg Pro 500
Gly. Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Vol Cys 220 Ala-Gly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys 240 Ala-Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Seri-Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu 280 Seri-Het Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln 320 Glu-Val Thr Ala Glu Asp Gly Thr Gli Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val-Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile-Gln Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe-Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400 410 420 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro 420 Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg Gly Arg—Ile Leu His Asn Gly Ala 440 Tyr Ser Leu Thr Leu Gln Gly Leu Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu 460 Leu Gly Ser Gly Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val 480 Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr Ala Asn Arg Pro 500
Ala-Bly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gin Cys Ala-Bla Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His Ser-Lely IIe Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu Ser-Het Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr-Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gin Glu-Val Thr Ala Glu Asp Gly Thr Gin Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Val-Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 IIe-Gin Glu Phe Ala Gly Cys Lys Lys IIe Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Giu Gin Leu Gin Val Phe 410 420 Glu Thr Leu Glu Glu IIe Thr Gly Tyr Leu Tyr IIe Ser Ala Trp Pro Asp Ser Leu Pro Asp Leu Ser Val Phe Gin Asn Leu Gin Val IIe Arg Gly Arg-IIe Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Glin Gly Leu Gly IIe Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly Leu Ala Leu IIe His His Asn Thr His Leu Cys Phe Val His Thr Val Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr Ala Asn Arg Pro 500
Ala ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Asn His 260 Ser Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu 280 300 Ser alet Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gln Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400 420 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro 420 Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg Gly Arg Tle Leu His Asn Gly Ala 440 Tyr Ser Leu Thr Leu Gln Gly Leu Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu 460 Leu Gly Ser Gly Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val 480 Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr Ala Asn Arg Pro 500
Sendily Ile Cys Glu Leu His Cys Pro Ala Leu Vai Thr Tyr Asn Thr Asp Thr Phe Glu Sendilet Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 300 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Vai Cys Pro Leu His Asn Gin Glu Vai Thr Ala Glu Asp Gly Thr Gin Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Vai Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gin Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Glu Gin Leu Gin Val Phe 400 410 420 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gin Gly Leu Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val Pro Trp Asp Gin Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro 500
Senatet Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro 310 320 Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln 320 Glu Val Thr Ala Glu Asp Gly Thr Gin Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gln Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 410 420 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr Ala Asn Arg Pro 500
Tyr Asn Tyr Leu Ser Thr Asp Val Giy Ser Cys Thr Leu Val Cys Pro Leu His Asn Gin 320 Giu Val Thr Ala Giu Asp Giy Thr Gin Arg Cys Giu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val Cys Tyr Giy Leu Giy Met Giu His Leu Arg Giu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gin Giu Phe Ala Giy Cys Lys Lys Ile Phe Giy Ser Leu Ala Phe Leu Pro Giu Ser 380 Phe Asp Giy Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Giu Gin Leu Gin Val Phe 400 410 420 Giu Thr Leu Giu Giu Ile Thr Giy Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro 420 Asp Leu Ser Val Phe Gin Asn Leu Gin Val Ile Arg Giy Arg Tie Leu His Asn Giy Ala 440 Tyr Ser Leu Thr Leu Gin Giy Leu Giy Ile Ser Trp Leu Giy Leu Arg Ser Leu Arg Giu 460 Leu Giy Ser Giy Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val 480 Pro Trp Asp Gin Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro 500
Tyr' Asn Tyr Leu Ser Thr Asp Val Giy Ser Cys Thr Leu Val Cys Pro Leu His Asn Gin 320 Giu Val Thr Ala Giu Asp Giy Thr Gin Arg Cys Giu Lys Cys Ser Lys Pro Cys Ala Arg 340 Val Cys Tyr Giy Leu Giy Met Giu His Leu Arg Giu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gin Giu Phe Ala Giy Cys Lys Lys Ile Phe Giy Ser Leu Ala Phe Leu Pro Giu Ser 380 Phe Asp Giy Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Giu Gin Leu Gin Val Phe 400 410 420 Giu Thr Leu Giu Giu Ile Thr Giy Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro 420 Asp Leu Ser Val Phe Gin Asn Leu Gin Val Ile Arg Giy Arg—Ile Leu His Asn Giy Ala 440 Tyr Ser Leu Thr Leu Gin Giy Leu Giy Ile Ser Trp Leu Giy Leu Arg Ser Leu Arg Giu 460 Leu Giy Ser Giy Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val 480 Pro Trp Asp Gin Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro 500
Glu Val Thr Ala Glu Asp Gly Thr Gin Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gin Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Glu Gin Leu Gin Val Phe 410 420 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro Asp Leu Ser Val Phe Gin Asn Leu Gin Val Ile Arg Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gin Gly Leu Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val 480 Pro Trp Asp Gin Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro 500
Glu Val Thr Ala Glu Asp Gly Thr Gin Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 Ile Gin Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Glu Gin Leu Gin Val Phe 410 420 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro Asp Leu Ser Val Phe Gin Asn Leu Gin Val Ile Arg Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gin Gly Leu Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val 480 Pro Trp Asp Gin Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro 500
Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn 360 380 11e Gin Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser 380 Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gin Pro Glu Gin Leu Gin Val Phe 400 410 420 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro Asp Leu Ser Val Phe Gin Asn Leu Gin Val Ile Arg Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gin Gly Leu Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val 480 Pro Trp Asp Gin Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro
Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400 410 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr Ala Asn Arg Pro 500
Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe 400 410 420 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg Gly Arg-Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr Ala Asn Arg Pro 500
Glu Thr Leu Glu Glu IIe Thr Gly Tyr Leu Tyr IIe Ser Ala Trp Pro Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val IIe Arg Gly Arg-IIe Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu Gly IIe Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly Leu Ala Leu IIe His His Asn Thr His Leu Cys Phe Val His Thr Val Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr Ala Asn Arg Pro 500
Giu Thr Leu Giu Giu Ile Thr Giy Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro Asp Leu Ser Val Phe Gin Asn Leu Gin Val Ile Arg Giy Arg-Ile Leu His Asn Giy Ala Tyr Ser Leu Thr Leu Gin Giy Leu Giy Ile Ser Trp Leu Giy Leu Arg Ser Leu Arg Giu 460 Leu Giy Ser Giy Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val 480 Pro Trp Asp Gin Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro 500
Asp Leu Ser Val Phe Gin Asn Leu Gin Val IIe Arg Gly Arg-Tie Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gin Gly Leu Gly IIe Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly Leu Ala Leu IIe His His Asn Thr His Leu Cys Phe Val His Thr Val Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro 500
Tyr Ser Leu Thr Leu Gin Gly Leu Gly IIe Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu 460 Leu Gly Ser Gly Leu Ala Leu IIe His His Asn Thr His Leu Cys Phe Val His Thr Val 480 Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro 500
Leu Gly Ser Gly Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val 480 Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr Ala Asn Arg Pro 500
Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr Ala Asn Arg Pro 500
510 520
Glu Asp Glu Cys Val Gly Glu Gly Leu Ala Cys His Gln Leu Cys Ala Arg Gly His Cys 520
Trp Gly Pro Gly Pro Thr Gln Cys Val Asn Cys Ser Gln Phe Leu Arg Gly Gln Glu Cys 540
Val Glu Glu Cys Arg Val Leu Gln Gly Leu Pro Arg Glu Tyr Val Asn Ala Arg His Cys 560
Leu Pro Cys His Pro Glu Cys Gin Pro Gin Asn Gly Ser Val Thr Cys Phe Gly Pro Glu 580
Ala Asp Gin Cys Val Ala Cys Ala His Tyr Lys Asp Pro Pro Phe Cys Val Ala Arg Cys 600
610 620
Pro Ser Gly Val Lys Pro Asp Leu Ser Tyr Met Pro Ile Trp Lys Phe Pro Asp Glu Glu 620
Pro Ser Gly Val Lys Pro Asp Leu Ser Tyr Met Pro IIe Trp Lys Phe Pro Asp Glu Glu 620 Gly Ala Cys Gln Pro Cys Pro IIe Asn Cys Thr His Ser Cys Val Asp Leu Asp Asp Lys 640
Gly Cys Pro Ala Glu Gin Arg Ala Ser Pro Leu Thr Ser 653

Fig. 10 (SEQ ID NO: 4)

10	20	
Gin Asn Giu Asp Leu Giy Pro Ala Ser Pro Leu Asp Ser Thr Phe T Glu Asp Asp Asp Met Gly Asp Leu Val Asp Ala Glu Giu Tyr Leu V Phe Phe Cys Pro Asp Pro Ala Pro Gly Ala Gly Gly Met Val His H Ser Ser Thr Arg Ser Gly Gly Gly Asp Leu Thr Leu Gly Leu Glu P Ala Pro Arg Ser Pro Leu Ala Pro Ser Glu Gly Ala Gly Ser Asp V	Val Pro Gln Gln Gly His Arg His Arg Ser Pro Ser Glu Glu Glu Val Phe Asp Gly Asp	20 40 60 80 100
110	120	
Leu Gly Met Gly Ala Ala Lys Gly Leu Gln Ser Leu Pro Thr His Al Gln Arg Tyr Ser Glu Asp Pro Thr Val Pro Leu Pro Ser Glu Thr Al Pro Leu Thr Cys Ser Pro Gln Pro Glu Tyr Val Asn Gln Pro Asp Val Pro Ser Pro Arg Glu Gly Pro Leu Pro Ala Ala Arg Pro Ala Gly Al Pro Lys Thr Leu Ser Pro Gly Lys Asn Gly Val Val Lys Asp Val Pro Lys Thr Leu Ser Pro Gly Lys Asn Gly Val Val Lys Asp Val Pro Lys Val Val Lys Asp Val Pro Lys Val Val Lys Asp Val Pro Lys Val Val Val Lys Asp Val Pro Lys Val	sp Gly Tyr Vai Ala Yal Arg Pro Gln Pro Na Thrieu Glu Am	120 140 160 180 200
Ala Val Giu Asn Pro Giu Tyr Leu Thr Pro Gin Gly Gly Ala Ala Pr Pro Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Tyr Tyr Trp Asp Gi Arg Gly Ala Pro Pro Ser Thr Phe Lys Gly Thr Pro Thr Ala Glu As Gly Deu Asp Val Pro Val • 267	In Asp Pro Pro Glu 1	220 240 260

Fig. 11 (SEQ ID NO: 5)

	10	20	
Gin Asn Glu Asp Leu Gly	Pro Ala Ser Pro Leu Asp Ser Thr	· Phe Tyr Ara Ser Leu Leu	20
•	Asp Leu Val Asp Ala Glu Glu Tyr		40
• • • •	Ala Pro Gly Ala Gly Gly Met Val	•	60
• 61			

Fig. 12 (SEQ ID NO: 6)

10		
Met Glu Leu Ala Ala Leu Cys Arg Trp Gly Leu Leu Leu Ala Leu Leu Pro Pro Gly Ala		
AND JET THE GILL VALUE CAS THE GIV THE ASD MET LUC LOU AND LOUDER ALS CO. TO SO.	20	
THE THE PERMITE HER ALL HIS LED IVE INDICATE THE VALUE OF ALL	40 60	
THE ADD AND DECEMBER OF THE ADD AND DECIDED SAC PROPERTY OF THE ADD THE ADD THE ADD THE	80	
Gin Gly Tyr Val Leu Ile Ala His Asn Gin Val Arg Gin Val Pro Leu Gin Arg Leu Arg	100	
110 120		
Ile Val Arg Gly Thr Gin Leu Phe Glu Asp Asn Tyr Ala Leu Ala Val Leu Asp Asn Gly	120	
THE THE REGION AND THE THE TO VOLUME FIVE AIM SAMPER ON THE OUT AIR	140	
an red and sel red this did the red ray file and the classical and the clastical and the classical and the classical and the classical and	160	
- ECO CYD TYT GITT NOW THE LEW ICD IVS ASK TIA PRA HIS THE AGA AGA RIS I.E. ALS	180	
Leu Ihr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys Ser Pro Met Cys Lys	200	
210		
Gly Ser Arg Cys Trp Gly Glu Ser Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys		
Ala Bly Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gin Cys	220	
Ala Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu His Phe Ash His	240	
Series the cys did Led his cys pro Ald Led Vol The Tue Ago The Ago The Obs. Of	260	÷
Seriffet Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro	280 300	
210	300	
Tyr Asn Tyr Leu Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gin	320	
HIM: #41 THE AND BID ADD BID HIS BID ADD LVS HILL LVS SOC LVS BOOK COR ALL ALL	340	
THE SET OF THE COURSE OF THE COURSE AND THE COURSE	360	
The sent did the Aid diy cys Lys Lys He Phe Bly Ser Lett Alo Phe Lott Dec Cit. Co.	380	
Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe	400	
410 420		
Ch. The Lou Ch. Ch. The Ch. Th		
Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro	420	
Asp Leu Ser Val Phe Gin Asn Leu Gin Val Ile Arg Giy Arg Ile Leu His Asn Giy Ala Tyr Ser Leu Thr Leu Gin Giy Leu Giy Ile Ser Trp Leu Giy Leu Arg Ser Leu Arg Giu	440	
Leu Gly Ser Gly Leu Ala Leu Ile His Asn Thr His Leu Cys Phe Val His Thr Val	460	
Pro Trp Asp Gin Leu Phe Arg Asn Pro His Gin Ala Leu Leu His Thr Ala Asn Arg Pro	480 500	
	500	
Glu Asp Glu Cys Val Gly Glu Gly Leu Ala Cys His Gin Leu Cys Ala Arg Gly His Cys	520	
in play fro dry fro infigin Lys val Ash Lys Sec Gin Phe Leu Ara Giv Gin Civ. Co.	540	
val did did cys and val Leu din div Leu Pro and Glu Tyr Val Aso Alo Aro His Circ	560	
LEGITIO CYS DIS FTO GIU LYS GIN PTO GIN ASO GIV SAF VOI THE CVS Pha GIV Peo Civ.	580	
Ala Asp Gin Cys Val Ala Cys Ala His Tyr Lys Asp Pro Pro Phe Cys Val Ala Arg Cys	600	

Fig. 12 (SEQ ID NO: 6)

610	620	
Pro Ser Gly Val Lys Pro Asp Leu Ser Tyr Met Pro Ile Trp Lys Phe Pro Asp Gly Gly Ala Cys Gln Pro Cys Pro Ile Asn Cys Thr His Ser Cys Val Asp Leu Asp Asp Gly Cys Pro Ala Glu Gln Arg Ala Ser Pro Leu Thr Ser Gln Asn Glu Asp Leu Gly Ala Ser Pro Leu Asp Asp Met Gly Ala Ser Pro Leu Asp Asp Met Gly Leu Val Asp Ala Glu Glu Tyr Leu Val Pro Gln Gln Gly Phe Phe Cys Pro Asp Pro	p Lys 640 y Pro 660	
710	720	
Pro Gly Ala Gly Gly Met Val His His Arg His Arg Ser Ser Ser Thr Arg Ser Gly Gly Asp Leu Thr Leu Gly Leu Glu Pro Ser Glu Glu Glu Ala Pro Arg Ser Pro Leu Pro Ser Glu Gly Ala Gly Ser Asp Val Phe Asp Gly Asp Leu Gly Met Gly Ala Ala Gly Leu Gln Ser Leu Pro Thr His Asp Pro Ser Pro Leu Gln Arg Tyr Ser Glu Asp Threval Pro Leu Pro Ser Glu Thr Asp Gly Tyr Val Ala Pro Leu Thr Cys Ser Pro	u Ala 740 a Lys 760 o Pro 780 o Gln 800	
810 	820 	
Pro Glu Tyr Val Asn Gln Pro Asp Val Arg Pro Gln Pro Pro Ser Pro Arg Glu Gly Leu Pro Ala Ala Arg Pro Ala Gly Ala Thr Leu Glu Arg Pro Lys Thr Leu Ser Pro Lys Asn Gly Val Val Lys Asp Val Phe Ala Phe Gly Gly Ala Val Glu Asn Pro Glu Leu Thr Pro Gln Gly Gly Ala Ala Pro Gln Pro His Pro Pro Pro Ala Phe Ser Pro Phe Asp Asn Leu Tyr Tyr Trp Asp Gln Asp Pro Pro Glu Arg Gly Ala Pro Pro Ser	o Gly 840 1 Tyr 860 2 Ala 880	· .
910	920	
Pheirs Gly Thr Pro Thr Ala Glu Asn Pro Glu Tyr Leu Gly Leu Asp Val Pro Val	• 920	

·	10	20
		
Met Glu Leu Ala Ala Leu Cys Arg Trp	Gly Leu Leu Leu Ala Leu Leu Pro Pro G	ly Ala 20
	Asp Met Lys Leu Arg Leu Pro Ala Ser Pi	
	Tyr Gin Gly Cys Gin Val Val Gin Gly A	
Glu Leu Thr Tyr Leu Pro Thr Asn Ala	Ser Leu Ser Phe Leu Gin Asp Ile Gin G	ly Val 80
	Gin Val Arg Gin Val Pro Leu Gin Arg Le	
	_	<u>. </u>
	110	120
He Vol Ara Gly Thr Glo Leu Phe Glu	Asp Asn Tyr Ala Leu Ala Val Leu Asp As	on Gly 120
Aso Pooley Aso Aso The The Peo Val	Thr Gly Ala Ser Pro Gly Gly Leu Arg G	lu Leu 140
Clo Low Arm Ser Leu Thr Glu Ile Leu	Lys Gly Gly Val Leu Ile Gln Arg Asn Pi	ro Gin 160
Low Cyc. Tyc. Glo. Asp. Thr. Tie. Lev. Tro	Lys asp lie Phe His Lys Asn Asn Gin Le	eu Ala 180
	Arg Ala Cys His Pro Cys Ser Pro Met C	
ted the ted the vab in valid act		
	210	220
O C - 1 C - T O O C - C		-1.6
Gly Ser Arg Lys Irp Gly Glu Ser Ser	Glu Asp Cys Gln Ser Leu Thr Arg Thr Vo	al Cys 220
	Pro Leu Pro Thr Asp Cys Cys His Glu G	
	Ser Asp Cys Leu Ala Cys Leu His Phe As	
	Ala Leu Val Thr Tyr Asn Thr Asp Thr Pt	
Ser met Pro Ash Pro Glu Gly Arg lyr	Thr Phe Gly Ala Ser Cys Val Thr Ala Cy	ys Pro 300
	310	320
	Ser Cys Thr Leu Val Cys Pro Leu His As	
	Arg Cys Glu Lys Cys Ser Lys Pro Cys A	
	Leu Arg Glu Val Arg Ala Val Thr Ser A	
	. Ile Phe Gly Ser Leu Ala Phe Leu Pro G	
Pheiasp Gly Asp Pro Ala Ser Asn Thr	' Ala Pro Leu Gin Pro Giu Gin Leu Gin Vo	al Phe 400
p 🚉	410	420
		
Gluthr Lou Glu Glu Ile Thr Gly Tyr	Leu Tyr Ile Ser Ala Trp Pro Asp Ser Le	
Aspileu Ser Val Phe Gin Asn Leu Gin	Val Ile Ang Gly Ang Ile Leu His Asn G	
Tyr Ser Leu Thr Leu Gin Gly Leu Gly	Ile Ser Trp Leu Gly Leu Arg Ser Leu A	-g Glu 460
Leu Gly Ser Gly Leu Ala Leu Ile His	His Asn Thr His Leu Cys Phe Val His Ti	nr Val 480
Pro Trp Asp Gin Leu Phe Arg Asn Pro) His Gln Ala Leu Leu His Thr Ala Asn Ai	ng Pro 500
	510	520
		<u> </u>
Glu Asp Glu Cys Val Gly Glu Gly Leu	ı Ala Cys Hıs Gin Leu Cys Ala Arg Giy H	
	ASN Cys Ser Gin Phe Leu Arg Gly Gin G	lu Cys 540
Val Glu Glu Cys Arg Val Leu Gln Gly	Leu Pro Arg Glu Tyr Val Asn Ala Arg H	is Cys 560
Leu Pro Cys His Pro Glu Cys Gln Pro	Gin Asn Gly Ser Val Thr Cys Phe Gly P	ro Glu 580
Ala Asp Gin Cys Val Ala Cys Ala His	Tyr Lys Asp Pro Pro Phe Cys Val Ala A	ng Cys 600
•	•	
	610	620
Pro Ser Gly Val Lys Pro Asp Leu Ser	· Tyr Met Pro Ile Trp Lys Phe Pro Asp G	lu Glu 620
Gly Ala Cys Gln Pro Cys Pro Ile Asr	i Cys Thr His Ser Cys Val Asp Leu Asp A	sp Lys 640
Gly Cys Pro Ala Glu Gin Ang Ala Ser	·Pro Leu Thr Ser Gin Asn Giu Asp Leu G	ly Pro 660
Ala Ser Pro Leu Asp Ser Thr Phe Tyr	' Arg Ser Leu Leu Glu Asp Asp Asp Met G	ly Asp 680
Leu Val Asp Ala Glu Glu Tyr Leu Val	Pro Gin Gin Gly Phe Phe Cys Pro Asp Pi	ro Ala 700
	710	720
	71/1	

714

Pro Gly Ala Gly Gly Met Val His His Arg His Arg

Fig. 14 (SEQ ID NO: 8)

	10		20
Met Glu Leu Ala Ala Trp Cys A	rg Trp Gly Phe Leu Leu	Ala Leu Leu Pro Pro Glv	Ile 20
Ala Gly Thr Gln Val Cys Thr G	ily Thr Asp Met Lys Leu A	Ara Leu Pro Ala Ser Pro 1	3lu 40
Thr His Leu Asp Met Leu Arg H	lis Leu Tyr GIn Gly Cys (Sin Val Val Gin Giv Asn L	eu 60
Glu Leu Thr Tyr Val Pro Ala As	sn Ala Ser Leu Ser Phe L	.eu Gln Asp Ile Gln Glu 1	/al _ 80
Gin Gly Tyr Met Leu Ile Ala H	lis Asn Gln. Val Lys Arg 1	/al Pro Leu Gln Arg Leu /	lrg 100
_	110	1	20
The Man Cha The Classes Bl			J
Ile Val Arg Gly Thr Gln Leu Pr	he Giu Asp Lys lyr Alq L	eu Ala Val Leu Asp Asn A	rg 120
Asp Pro Gin Asp Asn Val Ala A Leu Gin Leu Arg Ser Leu Thr G	the to the Charles	nr rro Glu Gly Leu Arg t	3lu 140
Gin Leu Cys Tyr Gin Asp Met Vo	of let Too be Aso Vol B	the Acathic Acathic Clark	Pro 160
Ala Pro Val Asp Ile Asp Thr As	so Acq Ser Ara Ala Cys F	Pro Pro Cys Ala Pro Ala (.eu 180 Sys 200
	210		200
			<u> </u>
Lys-Asp Asn His Cys Trp Gly G	lu Ser Pro Glu Asp Cys (Sin Ile Leu Thr Gly Thr I	le 2 20
Cysthr Ser Gly Cys Ala Arg Cy	ys Lys Gly Arg Leu Pro T	hr Asp Cys Cys His Glu (an 240
Cys Ala Ala Gly Cys Thr Gly Pr	ro Lys His Ser Asp Cys L	eu Ala Cys Leu His Phe A	sn 260
His Ser Gly Ile Cys Glu Leu Hi	is Cys Pro Ala Leu Val T	hr Tyr Asn Thr Asp Thr P	the 280
Glu Ser Met His Asn Pro Glu Gl	ly Arg Tyr Thr Phe Gly 1	Na Ser Cys Val Thr Thr C	Sys 300
*** **********************************	310	3	20
Profit to Ann. The Low See The Cl	le Val Ole San San That		1 200
Pro Tyr Asn Tyr Leu Ser Thr Gl Gla Glu Val Thr Ala Glu Asp Gl	ty The Cla Aca Coa Coa I	eu vai Lys Pro Pro Asn A	sn 320
Arg Val Cys Tyr Gly Leu Gly Me	et Glu His Leu Aca Cly A	ys cys ser bys Fro bys A	Na 340 .sp 360
Aspeval Gin Giu Phe Asp Gly Cy	vs Lvs Ivs The Phe Glv S	ecteu Ala Pheteu Pro G	380
Ser Phe Asp Gly Asp Pro Ser Se	er Gly Ile Ala Pro Leu A	ra Pro Glu Gin Leu Gin V	(a) 400 .
	410		20
			<u> </u>
Phe Glu Thr Leu Glu Glu Ile Tr	nr Gly Tyr Leu Tyr Ile S	ier Ala Trp Pro Asp Ser L	eu 420
Arg Asp Leu Ser Val Phe Gin As	sn Leu Arg Ile Ile Arg (ly Arg lie Leu His Asp (Gly 440
Ala Tyr Ser Leu Thr Leu Gln Gl	ly Leu Gly Ile His Ser L	eu Gly Leu Arg Ser Leu A	rg <u>460</u>
Glu Leu Gly Ser Gly Leu Ala Le	eu Ile His Arg Asn Ala H	lis Leu Cys Phe Val His T	hr 480
Val Pro Trp Asp Gln Leu Phe Ar			
	510	5	20
Pro Glu Glu Asp Cys Gly Leu G	ly Gly Ley Val Cys Asa S	er Leu Cvs Ala His Glv H	fis 520
Cys Trp Gly Pro Gly Pro Thr G	In Cys Val Asn Cvs Ser H	dis Phe Leu Ara Giv Gin (Slu 540
Cys Val Glu Glu Cys Arg Val Tr	TP Lys Gly Leu Pro Ara (Glu Tyr Val Ser Asp Lys A	rg 560
Cys Leu Pro Cys His Pro Glu Cy	ys Gin Pro Gin Asn Ser S	ier Glu Thr Cys Phe Gly S	ier 580
Glu Ala Asp Gin Cys Ala Ala Cy	ys Ala His Tyr Lys Asp S	Ser Ser Cys Val Ala A	rg 600
	610	. 6	20
Cys Pro Ser Gly Val Lys Pro As	So Leu Soc Tie Met Des 1	In Table T - Day 1	
Glu Gly Ile Cys Gin Pro Cys Pr	in Fed net that ther two t	ie irp Lys iyr Pro Asp G	ilu 620
Arg Gly Cys Pro Ala Glu Gln Ar	O lie Asn Cvs Thr His S	er fys Val Asaleu Asa G	ilu 640

			CGC					•	48
			CAA. G1n					,	96
			GAG Glu 40					1	44
		-	GTG Val	 				1	92
			TCC Ser					2	40
			CAC His					2	.88
			GGC Gly	Gln				3	336
	۷a۱		GGA Gly 120				CCT	(384

			GGA Gly 135						432
			GGA Gly						480
	_		ATT Ile						528
			CTG Leu						576
			TGT Cys				•		624
			CTG Leu 215						672
			CTG Leu						720
			CCC Pro						768
			ATC Ile					;	816
			TTT Phe						864
			TGT Cys 295				_		912

						TCC Ser 310											960
		_				GAT Asp											1008
						TGC Cys											1056
H H F H H						AGT Ser											1104
A I A I A III I I A III I I A I A I A I						CTG Leu											1152
amy.						GCC Ala 390											1200
երոյն դրոյն դրոյն կարու իր						ATC Ile											1248
•					Asp	CTC Leu											1296
				Leu		AAT Asn			Tyr					Gln		CTG Leu	1344
	GGC Gly	ATC Ile 450	Ser	TGG Trp	CTG Leu	GGG Gly	CTG Leu 455	Arg	TCA Ser	CTG Leu	AGG Arg	GAA G1u 460	Leu	GGC Gly	AGT Ser	GGA Gly	1392
	CTG Leu 465	Ala	CTC Leu	ATC	CAC His	CAT His 470	Asn	ACC Thr	CAC His	Leu	TGC Cys 475	Phe	GTG Val	CAC His	ACG Thr	GTG Val 480	1440



						CGG Arg										1488
						GAG G1u										1536
						CAC His										1584
						CTT Leu 535										1632
						CCC Pro										1680
						TGT Cys										1728
						CAG Gln										1776
CCT	CCC	TTC Phe 595	TGC Cys	GTG Val	GCC Ala	CGC Arg	TGC Cys 600	CCC Pro	AGC Ser	GGT Gly	GTG Val	AAA Lys 605	CCT Pro	GAC Asp	CTC Leu	1824
						AAG Lys 615										1872
CCT Pro 625	TGC Cys	CCC Pro	ATC Ile	AAC Asn	TGC Cys 630	ACC Thr	CAC His	TCC Ser	TGT Cys	GTG Val 635	GAC Asp	CTG Leu	GAT Asp	GAC Asp	AAG Lys 640	1920
GGC Gly	TGC Cys	CCC Pro	GCC Ala	GAG Glu 645	Gln	AGA Arg	GCC Ala	AGC Ser	CCT Pro 650	Leu	ACG Thr	TCC Ser	ATC Ile	ATC Ile 655	Ser	1968
				Ile					۷a٦					Phe	GGG Gly	2016

Fig. 15 (SEQ ID NO: 9)

	Leu					Gln						TAC Tyr 685				٠	2064
					Thr							ACA Thr					2112
												GAG Glu					2160
												ACA Thr					2208
GGC Gly	ATC Ile	TGG Trp	ATC Ile 740	CCT Pro	GAT Asp	GGG Gly	GAG G1u	AAT Asn 745	GTG Val	AAA Lys	ATT Ile	CCA Pro	GTG Val 750	GCC Ala	ATC Ile		2256
AAA [.] Lys	GTG Val	TTG Leu 755	AGG Arg	GAA Glu	AAC Asn	ACA Thr	TCC Ser 760	CCC Pro	AAA Lys	GCC Ala	AAC Asn	AAA Lys 765	GAA Glu	ATC Ile	TTA Leu		2304
GAC Asp	GAA G1u 770	GCA Ala	TAC Tyr	GTG Val	ATG Met	GCT Ala 775	GGT Gly	GTG Val	GGC Gly	TCC Ser	CCA Pro 780	TAT Tyr	GTC Val	TCC Ser	CGC Arg		2352
CTT Leu 785	Leu	GGC Gly	ATC Ile	TGC Cys.	CTG Leu 790	ACA Thr	TCC Ser	ACG Thr	GTG Val	CAG G1n 795	Leu	GTG Val	ACA Thr	CAG Gln	CTT Leu 800		2400
ATG Met	CCC Pro	TAT Tyr	GGC Gly	TGC Cys 805	CTC Leu	TTA Leu	GAC Asp	CAT His	GTC Val 810	Arg	GAA Glu	AAC Asn	CGC Arg	GGA Gly 815	Arg		2448
CTG Leu	GGC Gly	TCC Ser	CAG Gln 820	Asp	CTG Leu	CTG Leu	AAC Asr	TGG Trp 825	Cys	ATC Met	CAC Glr	ATT i Ile	GCC Ala 830	Lys	GGG Gly		2496
AT0 Met	G AGC Ser	TAC Tyr	Leu	GAG Glu	GAT Asp	GTG Val	6 CG0 Arg 840	J Lei	GT/ J Va	A CAC I His	AG(Ar	G GAC G Asp 845	TTG Leu	GCC Ala	GCT Ala		2544

AAC Asn 850											2592
CTG Leu											2640
GGC Gly		_									2688
CGG Arg											2736
GAG G1u											2784
GAG G1u 930											2832
ATC Ile											2880
GAC Asp											2928
CGC Arg									Asn		2976
TTG Leu					Asp			Arg			3024
GAG Glu 1010	Asp			Asp			Glu				3072

GTA CCC CAG CAG Val Pro Gln Gln 1025			
GGC ATG GTC CAC Gly Met Val His			Gly
GGG GAC CTG ACA Gly Asp Leu Thr 1060	Leu Gly Leu Glu		
TCT CCA CTG GCA Ser Pro Leu Ala 1075		Ala Gly Ser A	
GAC CTG GGA ATG Asp Leu Gly Met 1090		Gly Leu Gln S	
GAC CCC AGC CCT Asp Pro Ser Pro 1105			
CCC TCT GAG ACT Pro Ser Glu Thr			Gln
CCT GAA TAT GTG Pro Glu Tyr Val 1140	Asn Gln Pro Asp		
CGA GAG GGC CCT Arg Glu Gly Pro 1155		Arg Pro Ala G	
AGG CCC AAG ACT Arg Pro Lys Thr 1170		Lys Asn Gly V	
TTT GCC TTT GGG Phe Ala Phe Gly 1185			

						CCC Pro								_		3648
				1205	5				1210)				1215	5	
						TGG										3696
Phe	Asp	Asn	Leu 1220	-	lyr	Trp	Asp	GIn 1225	•	Pro	Pro	Glu	Arg 123(•	Ala	
CCA	CCC	AGC	ACC	TTC	AAA	GGG	ACA	ССТ	ACG	GCA	GAG	AAC	CCA	GAG	TAC	3744
		Ser	Thr			Gly	Thr	Pro				Asn	Pro			
		1235	5				1240)				1249	5			
						GTG	TGA									3768
Leu	Gly 1250		Asp	Val	Pro	Val	_									
	・・ノコリ	1				1/7	٦.									

 2001 Baccascial druggestad seccidence debasescri tocalacta crosse 2001 Baccascial druggestad seccidence debasescri tocalacta crosse 2001 Baccascial druggestad seccidence debasescri tocalacta criticalacta secretaria debasescri tocalacta decretaria debasescri debase

Herceptin Binding by Direct Elisa 10/5/99

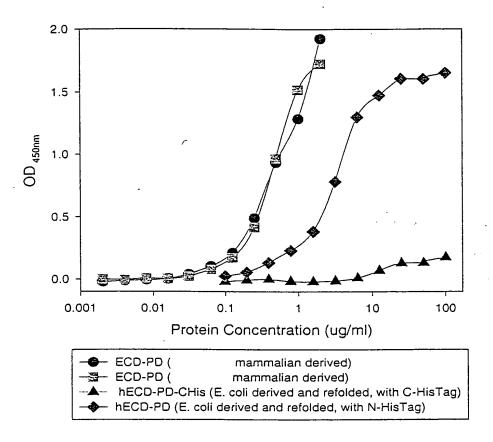
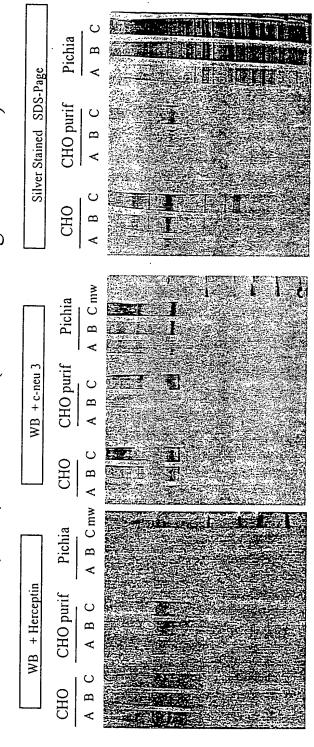


Fig. 17

Comparaison of Her2neu ECD-PD Expression in CHO-K1 (S/SF) and Pichia (Non reducing conditions)



Legend : CHO, A, B, C = 2.5μ l / 5μ l / 10μ l

CHO purif; A, B, C = 125ng / 250ng / 500ng

Pichia ; A ,B ,C = $2,5\mu$ l / 5μ l / 10μ l from a 1/30 dilution of OD 120

Fig. 19 (SEQ ID NO:11)

atggagctgg	cggcctggtg	ccgttggggg	ttcctcctcg	ccctcctgtc	ccccggagcc	60
gcgggtaccc	aagtgtgtac	cggtaccgac	atgaagttgc	gactccctgc	cagtcctgag	120
acccacctgg	acatgcttcg	ccacctctac	cagggctgtc	aggtggtgca	gggcaatttg	180
gagcttacct	acctgcccgc	caatgccagc	ctctcattcc	tgcaggacat	ccaggaagtc	240
cagggataca	tgctcatcgc	tcacaaccga	gtgaaacacg	tcccactgca	gaggttgcgc	300
		ctttgaggac				360
		caccgccgcc				420
		agagatcttg				480
		ggttttgtgg				540
gctcctgtcg	acatggacac	caatcgttcc	cgggcctgtc	caccttgtgc	cccaacctgc	600
		tgagagtcct				660
tgtactagtg	gctgtgcccg	gtgcaagggc	cggctgccca	ctgactgttg	ccatgagcag	720
tgtgctgcag	gctgcacggg	tcccaagcat	tctgactgcc	tggcctgcct	ccacttcaat	780
catagtggta	tctgtgagct	gcactgcccg	gccctcatca	cctacaacac	agacaccttc	840
gagtccatgc	tcaaccctga	gggtcgctac	acctttggtg	ccagctgtgt	gaccacctgc	900
		ggaagtggga				960
		cggaacacag				1020
		catggagcac				1080
aatatccagg	agtttgctgg	ctgcaagaag	atctttggga	gcctggcatt	tttgccggag	1140
agctttgatg	ggaacccctc	ctccggcgtt	gccccactga	agccagagca	tctccaagtg	1200
ttcgaaaccc	tggaggagat	cacaggttac	ctatacattt	cagcatggcc	agagagcttc	1260
caagacctca	gtgtcttcca	gaaccttcgg	gtcattcggg	gacggattct	ccatgatggt	1320
gcttactcat	tgacgttgca	aggcctgggg	attcactcac	tggggctacg	ctcactgcgg	1380
gagctgggca	gtggattggc	tctcattcac	cgcaacaccc	atctctgctt	tgtaaacact	1440
gtaccttggg	accagctctt	ccggaacccg	caccaggccc	tactccacag	tgggaaccgg	1500
ccagaagagg	catgtggtct	tgagggcttg	gtctgtaact	cactgtgtgc	ccgtgggcac	1560
tgctgggggc	cagggcccac	ccagtgtgtc	aactgcagtc	agttcctccg	gggccaggag	1620
tgtgtggagg	agtgccgagt	atggaagggg	ctccccaggg	agtatgtgag	gggcaagcac	1680
tgtctgccat	gccaccccga	gtgtcagcct	caaaacagct	cggagacctg	ctatggatcg	1740
gaggctgacc	agtgtgaggc	ttgtgcccac	tacaaggact	catcttcctg	tgtggctcgc	1800
tgccccagtg	gtgtgaagcc	agacctctcc	tacatgccta	tctggaagta	cccggatgag	1860
gagggcatat	gtcagccatg	ccccatcaac	tgcacccact	catgtgtgga	cctggacgaa	1920
cgaggctgcc	cagcagagca	gagagccagc	ccagtgacat	tcatcattgc	aactgtggtg	1980
ggcgtcctgt	tgttcctgat	catagtggtg	gtcattggaa	tcctaatcaa	acgaaggcga	2040
		catgcgtagg				2100
ctgacgccca	gtggagctgt	gcccaaccag	gctcagatgc	ggatcctaaa	ggagacagag	2160
ctaaggaagc	tgaaggtgct	tgggtcagga	gccttcggca	ctgtctacaa	gggcatctgg	2220
atcccagatg	gggagaacgt	gaaaatcccc	gtggccatca	aggtgttgag	ggaaaacaca	2280
tctcctaaag	ctaacaaaga	aatcctagat	gaagcgtacg	tcatggctgg	tgtgggttct	2340
ccatatgtgt	cccgcctcct	gggcatctgc	ctgacatcca	cagtgcagct	ggtgacacag	2400
cttatgccct	atggctgcct	tctggaccat	gtccgagaac	accgaggtcg	cttaggctcc	2460
caggacctgc	tcaactggtg	tgttcagatt	gccaagggga	tgagctacct	ggaggaagtt	2520
cggcttgttc	acagggacct	agctgcccga	aacgtgctag	tcaagagtcc	caaccacgtc	2580
aagattaccg	acttcgggct	ggcacggctg	ctggacattg	atgagactga	ataccatgca	2640
gatgggggca	aggtgcccat	caagtggatg	gcattggaat	ctattctcag	acgccggttc	2700
actcatcaga	gtgatgtgtg	gagctatggt	gtgactgtgt	gggagctgat	gacctttggg	2760
gccaaacctt	acgatgggat	cccagctcgg	gagatccctg	atttgctgga	gaagggagaa	2820
cgcctacctc	agcctccaat	ctgcaccatc	gacgtctaca	tgatcatggt	caaatgttgg	2880
atgattgact	ccgaatgtcg	cccgagattc	cgggagttgg	tatcagaatt	ctcccgtatg	2940
gcaagggacc	cccagcgctt	tgtggtcatc	cagaacgagg	acttaggccc	ctccagcccc	3000
atggacagca	ccttctaccg	ttcactgctg	gaggatgatg	acatggggga	gctggtcgat	3060
gctgaagagt	acctggtacc	ccagcaggga	ttcttctccc	cagaccctgc	cctaggtact	3120
gggagcacag	cccaccgcag	acaccgcagc	tcgtcggcca	ggagtggcgg	tggtgagctg	3180
acactgggcc	tggagccctc	ggaagaagag	cccccagat	ctccactggc	tccctccgaa	3240
ggggctggct	ccgatgtgtt	tgatggtgac	ctggcagtgg	gggtaaccaa	aggactgcag	3300
agcctctctc	cacatgacct	cagccctcta	cagcggtaca	gtgaggatcc	cacattacct	3360

Fig. 19 (SEQ ID NO:11)

ctgcccccg	agactgatgg	ctacgttgct	cccctggcct	gcagccccca	gcccgagtat	3420
gtgaaccagc	cagaggttcg	gcctcagtct	cccttgaccc	cagagggtcc	tccgcctccc	3480
atccgacctg	ctggtgctac	tctagaaaga	cccaagactc	tctctcctgg	gaaaaatggg	3540
gttgtcaaag	acgtttttgc	ctttgggggt	gctgtggaga	accctgaata	cctagcaccc	3600
agagcaggca	ctgcctctca	gccccaccct	tctcctgcct	tcagcccagc	ctttgacaac	3660
ctctattact	gggaccagaa	ctcatcggag	cagggtcctc	caccaagtac	ctttgaaggg	3720
acccccactg	cagagaaccc	tgagtaccta	ggcctggatg	tgccagtatg	a	3771

Fig. 20 (SEQ ID NO:14)

M	et 0	3lu 1	Leu	Ala A	Ala 1	Crp (Cys	Arg	Trp	Gly 10	Phe	Leu	Leu	Ala	Leu 1	Leu
:	Ser	Pro	Gly	Ala 20	Ala	Gly	Thr	Gln	Val 25	Cys	Thr	Gly	Thr	Asp	Met	Lys
	Leu	Arg	Leu 35	Pro	Ala	Ser	Pro	Glu 40	Thr	His	Leu	Asp	Met 45	Leu	Arg	His
	Leu	Tyr 50	Gln	Gly	Cys	Gln	Val 55	Val	Gln	Gly	Asn	Leu 60	Glu	Leu	Thr	Tyr
	Leu 65	Pro	Ala	Asn	Ala	Ser 70	Leu	Ser	Phe	Leu	Gln 75	Asp	Ile	Gln	Glu	Val 80
•	Gln	Gly	Tyr	Met	Leu 85 ,	Ile	Ala	His	Asn	Arg 90	Val	. Lys	His	val	Pro 95	Leu
				100			_	-	105					110		
			115	;				120					125	5	Thr	•
		130		_	_		135	j	_			140)		. Leu	
	145					150					155	5			Asn	160
					165					170)				Arg 175	
				180					185	;				190		
	_		195	5				200)				205	5	Gly	
		210					215	5				220)		Ser	
	225					230				·	235	5			Glu	240
					245					250)				Ala 255	
				260					265	5				270		
			275	5				280)				285	5	Glu	
		290					295	5				300)		Asn	
	305					310					315	5			Asn Cys	320
					325					330)				335 Leu	
				340					345	5				350		
			355	5				360)				365	5	Asp	
		370					375	5				380)		. ASP	
	385					390					395	5			Ala	400
					405					410)			-	415 Val	
	PLO	GIU	sei	. Pue	GIU	ASP	net	, sel	. va.	r 2116	الدى -	. ASI	י הפו	~ wrc	, val	116

Fig. 20 (SEQ ID NO:14)

			420					425					430		
Arg	Gly	Arg 435	Ile	Leu	His	Asp	Gly 440	Ala	Tyr	Ser	Leu	Thr 445	Leu	Gln	Gly
Leu	Gly 450	Ile	His	Ser	Leu	Gly 455	Leu	Arg	Ser	Leu	Arg 460	Glu	Leu	Gly	Ser
465	Leu				470					475					480
	Pro	_	_	485			_		490					495	
	Gly		500					505					510		
	Ser	515					520					525			
-	Val 530		_			535		_			540				
545	Arg				550					555					560
	Leu			565					570					575	
-	Tyr	_	580			_		585					590		
-	Ser	595					600					605			
	Ser 610					615					620				
625	Pro Gly				630					635					640
_	Thr	_		645					650					655	
	Ile		660					665					670		
_	Arg	675					680					685			
_	690 Ala					695					700				
705	Arg				710					715					720
	Gly			725					730					735	
	Lys		740					745					750		
	Asp	755					760					765			
	770 Leu					775					780				
785	Met				790					795					800
	Leu			805					810					815	
	Met		820					825					830		
_	Arg	835					840					845			
	850 Gly			•		855					860				
865	-			_	870		_			875					880

Fig. 20 (SEQ ID NO:14)

_				•											
Asp	Gly	Gly	Lys		Pro	Ile	Lys	Trp		Ala	Leu	Glu	Ser	Ile	Leu
			_	885					890					895	
Arg	Arg	Arg		Thr	His	Gln	Ser	Asp	Val	Trp	Ser	Tyr	Gly	Val	Thr
			900					905					910		
Val	Trp	Glu	Leu	Met	Thr	Phe	Gly	Ala	Lys	Pro	Tyr	Asp	Gly	Ile	Pro
		915					920					925			
Ala	Arq	Glu	Ile	Pro	Asp	Leu	Leu	Glu	Lvs	Glv	Glu	Ara	Leu	Pro	Gln
	930					935			-1-	1	940	ج			
Bro		Tle	Cve	Thr	Tla		17 a 1	Тугъ	Mat	Tla		Val	Lvc	Cys	Trn
945	210	110	Cys	1111	950	Asp	vai	TYL	Mec		MEC	vai	цуз	Cys	
		_	_	~ 7		_	_	_	_,	955		_		_	960
мет	iie	Asp	Ser		Cys	Arg	Pro	Arg		Arg	Glu	ьeu	val	Ser	Glu
				965					970					975	
Phe	Ser	Arg	Met	Ala	Arg	Asp	Pro	Gln	Arg	Phe	Val	Val	Ile	Gln	Asn
			980					985					990		
Glu	Asp	Leu	Gly	Pro	Ser	Ser	Pro	Met	Asp	Ser	Thr	Phe	Tyr	Arg	Ser
	-	995	-				1000		-			1009	-	_	
Len	Len		Asp	Asn	Asn				ĭ.eu	Va 1	Asn			Glu	ጥህን
100	1010		тор	1105	riop	1015	_	OIU	шса	Vul	1020		014	O L u	- y -
7			~1 -	01 -	a 1			a	D	7			T	01	(T)
		Pro	GIN	GIN			Pne	ser	Pro			Ата	Leu	Gly	
1029		_	_		1030					1039					1040
Gly	Ser	Thr	Ala	His	Arg	Arg	His	Arg	Ser	Ser	Ser	Ala	Arg	Ser	Gly
				1045					1050					1055	
Gly	Gly	Glu	Leu	Thr	Leu	Gly	Leu	Glu	Pro	Ser	Glu	Glu	Glu	Pro	Pro
			1060)				1065	5				1070)	
Arq	Ser	Pro	Leu	Ala	Pro	Ser	Glu	Glv	Ala	Gly	Ser	qaA	Val	Phe	Asp
Arg	Ser			Ala	Pro	Ser			Ala	Gly	Ser			Phe	Asp
		1075	5				1080)				1085	5		
	Asp	1075 Leu	5			Val	1080 Thr)			Gln	1085 Ser	5	Phe Ser	
Gly	Asp 1090	1075 Leu)	Ala	Val	Gly	Val 1099	1080 Thr	Lys	Gly	Leu	Gln 1100	1089 Ser	5 Leu	Ser	Pro
Gly His	Asp 1090 Asp	1075 Leu)	Ala	Val	Gly Leu	Val 1099 Gln	1080 Thr	Lys	Gly	Leu Glu	Gln 1100 Asp	1089 Ser	5 Leu		Pro Pro
Gly His	Asp 1090 Asp	1075 Leu) Leu	Ala Ser	Val Pro	Gly Leu 1110	Val 1099 Gln	1080 Thr Arg	Lys Tyr	Gly Ser	Leu Glu 1115	Gln 1100 Asp	1085 Ser) Pro	Leu Thr	Ser Leu	Pro Pro 1120
Gly His	Asp 1090 Asp	1075 Leu) Leu	Ala Ser	Val Pro Thr	Gly Leu 1110 Asp	Val 1099 Gln	1080 Thr Arg	Lys Tyr	Gly Ser	Leu Glu 1115	Gln 1100 Asp	1085 Ser) Pro	Leu Thr	Ser	Pro Pro 1120
Gly His 1105 Leu	Asp 1090 Asp Pro	1079 Leu Leu Pro	Ala Ser Glu	Val Pro Thr	Gly Leu 1110 Asp	Val 1099 Gln) Gly	1080 Thr 5 Arg Tyr	Lys Tyr Val	Gly Ser Ala	Leu Glu 1115 Pro	Gln 1100 Asp Leu	1089 Ser Pro	Leu Thr Cys	Ser Leu Ser	Pro Pro 1120 Pro
Gly His 1105 Leu	Asp 1090 Asp Pro	1079 Leu Leu Pro	Ala Ser Glu	Val Pro Thr	Gly Leu 1110 Asp	Val 1099 Gln) Gly	1080 Thr 5 Arg Tyr	Lys Tyr Val	Gly Ser Ala	Leu Glu 1115 Pro	Gln 1100 Asp Leu	1089 Ser Pro	Leu Thr Cys	Ser Leu Ser	Pro Pro 1120 Pro
Gly His 1105 Leu	Asp 1090 Asp Pro	1079 Leu Leu Pro	Ala Ser Glu	Val Pro Thr 1125 Val	Gly Leu 1110 Asp	Val 1099 Gln) Gly	1080 Thr 5 Arg Tyr	Lys Tyr Val	Gly Ser Ala 1130 Val	Leu Glu 1115 Pro	Gln 1100 Asp Leu	1089 Ser Pro	Leu Thr Cys	Ser Leu Ser 1135 Pro	Pro Pro 1120 Pro
Gly His 1105 Leu Gln	Asp 1090 Asp Pro	Leu Pro	Ala Ser Glu Tyr	Val Pro Thr 1125 Val	Gly Leu 1110 Asp Asn	Val 1099 Gln Oly Gly	Thr Arg Tyr Pro	Lys Tyr Val Glu 1149	Gly Ser Ala 1130 Val	Leu Glu 1119 Pro) Arg	Gln 1100 Asp Leu Pro	1089 Ser Pro Ala Gln	Leu Thr Cys Ser	Ser Leu Ser 1135 Pro	Pro Pro 1120 Pro Leu
Gly His 1105 Leu Gln	Asp 1090 Asp Pro	Leu Pro Glu Glu	Ser Glu Tyr 1140	Val Pro Thr 1125 Val	Gly Leu 1110 Asp S	Val 1099 Gln Oly Gly	Thr Arg Tyr Pro	Lys Tyr Val Glu 1145	Gly Ser Ala 1130 Val	Leu Glu 1119 Pro) Arg	Gln 1100 Asp Leu Pro	1085 Ser Pro Ala Gln	Leu Thr Cys Ser 1150	Ser Leu Ser 1135 Pro	Pro Pro 1120 Pro Leu
Gly His 1105 Leu Gln Thr	Asp 1090 Asp Pro Pro	Leu Pro Glu Glu 1155	Ser Glu Tyr 1140 Gly	Val Pro Thr 1125 Val Pro	Cly Leu 1110 Asp Asn Pro	Val 1099 Gln Gly Gln Pro	1080 Thr 5 Arg Tyr Pro	Lys Tyr Val Glu 1145 Ile	Gly Ser Ala 1130 Val Arg	Leu Glu 1119 Pro Arg	Gln 1100 Asp Leu Pro	1085 Ser Pro Ala Gln Gly 1165	Leu Thr Cys Ser 1150 Ala	Ser Leu Ser 1135 Pro Thr	Pro Pro 1120 Pro Leu Leu
Gly His 1105 Leu Gln Thr	Asp 1090 Asp Pro Pro Pro	Leu Pro Glu Glu 1155	Ser Glu Tyr 1140 Gly	Val Pro Thr 1125 Val Pro	Cly Leu 1110 Asp Asn Pro	Val 1099 Gln Gly Gln Pro	1080 Thr Arg Tyr Pro Pro 1160 Pro	Lys Tyr Val Glu 1145 Ile	Gly Ser Ala 1130 Val Arg	Leu Glu 1119 Pro Arg	Gln 1100 Asp Leu Pro Ala Gly	1085 Ser Pro Ala Gln Gly 1165 Val	Leu Thr Cys Ser 1150 Ala	Ser Leu Ser 1135 Pro	Pro Pro 1120 Pro Leu Leu
Gly His 1105 Leu Gln Thr	Asp 1090 Asp Pro Pro Pro Arg 1170	Leu Pro Glu 1155 Pro	Ala Ser Glu Tyr 1140 Gly Lys	Val Pro Thr 1125 Val Pro Thr	Leu 1110 Asp Asn Pro	Val 1099 Gln Gly Gln Pro Ser 1179	1080 Thr Arg Arg Tyr Pro Pro 1160 Pro	Lys Tyr Val Glu 1149 Ile Gly	Gly Ser Ala 1130 Val Arg	Leu Glu 1119 Pro Arg Pro	Gln 1100 Asp Leu Pro Ala Gly 1180	1085 Ser Pro Ala Gln Gly 1165 Val	Leu Thr Cys Ser 1150 Ala Val	Ser Leu Ser 1135 Pro Thr	Pro Pro 1120 Pro Leu Leu Asp
Gly His 1105 Leu Gln Thr Glu Val	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe	Leu Pro Glu 1155 Pro	Ala Ser Glu Tyr 1140 Gly Lys	Val Pro Thr 1125 Val Pro Thr	Gly Leu 1110 Asp Asn Pro Leu Gly	Val 1099 Gln Gly Gln Pro Ser 1179 Ala	1080 Thr Arg Arg Tyr Pro Pro 1160 Pro	Lys Tyr Val Glu 1149 Ile Gly	Gly Ser Ala 1130 Val Arg	Leu Glu 1115 Pro Arg Pro Asn Pro	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu	1085 Ser Pro Ala Gln Gly 1165 Val	Leu Thr Cys Ser 1150 Ala Val	Ser Leu Ser 1135 Pro Thr	Pro Pro 1120 Pro Leu Leu Asp
Gly His 1105 Leu Gln Thr Glu Val 1185	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe	Leu Pro Glu 1155 Pro Ala	Ala Ser Glu Tyr 1140 Gly Lys	Val Pro Thr 1125 Val Pro Thr Gly	Leu 1110 Asp Asn Pro Leu Gly	Val 1099 Gln Gly Gln Pro Ser 1179 Ala	Tyr Pro Pro 1160 Pro Val	Lys Tyr Val Glu 1145 Ile Gly Gly	Gly Ser Ala 1130 Val Arg Lys Asn	Leu Glu 1115 Pro Arg Pro Asn Pro 1195	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu	1085 Ser Pro Ala Gln Gly 1165 Val	Leu Thr Cys Ser 1150 Ala Val	Ser Leu Ser 1135 Pro Thr Lys Ala	Pro Pro 1120 Pro Leu Leu Asp Pro 1200
Gly His 1105 Leu Gln Thr Glu Val 1185	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe	Leu Pro Glu 1155 Pro Ala	Ala Ser Glu Tyr 1140 Gly Lys	Val Pro Thr 1125 Val Pro Thr Gly Ala	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser	Val 1099 Gln Gly Gln Pro Ser 1179 Ala	Tyr Pro Pro 1160 Pro Val	Lys Tyr Val Glu 1145 Ile Gly Gly	Gly Ser Ala 1130 Val Arg Lys Asn	Leu Glu 1115 Pro Arg Pro Asn Pro 1195	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu	1085 Ser Pro Ala Gln Gly 1165 Val	Leu Thr Cys Ser 1150 Ala Val	Ser Leu Ser 1135 Pro Thr	Pro Pro 1120 Pro Leu Leu Asp Pro 1200
Gly His 1105 Leu Gln Thr Glu Val 1185	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe	Leu Pro Glu 1155 Pro Ala	Ala Ser Glu Tyr 1140 Gly Lys	Val Pro Thr 1125 Val Pro Thr Gly	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser	Val 1099 Gln Gly Gln Pro Ser 1179 Ala	Tyr Pro Pro 1160 Pro Val	Lys Tyr Val Glu 1145 Ile Gly Gly	Gly Ser Ala 1130 Val Arg Lys Asn	Leu Glu 1119 Pro Arg Pro Asn Pro 1199 Ser	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu	1085 Ser Pro Ala Gln Gly 1165 Val	Leu Thr Cys Ser 1150 Ala Val	Ser Leu Ser 1135 Pro Thr Lys Ala	Pro Pro 1120 Pro Leu Leu Asp Pro 1200 Pro
Gly His 1105 Leu Gln Thr Glu Val 1185 Arg	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe	Leu Pro Glu Glu 1155 Pro Ala	Ala Ser Glu Tyr 1140 Gly Lys Phe	Val Pro Thr 1125 Val Pro Thr Gly Ala 1205	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser	Val 1099 Gln Gly Gln Pro Ser 1179 Ala	1080 Thr Arg Tyr Pro Pro 1160 Pro Val	Lys Tyr Val Glu 1145 Ile Gly Glu His	Gly Ser Ala 1130 Val Arg Lys Asn Pro 1210	Leu Glu 1115 Pro Arg Pro Asn Pro 1195 Ser	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu Pro	1085 Ser Pro Ala Gln Gly 1165 Val Tyr Ala	Leu Thr Cys Ser 1150 Ala Val Leu Phe	Ser Leu Ser 1135 Pro Thr Lys Ala Ser 1215	Pro Pro 1120 Pro Leu Leu Asp Pro 1200 Pro
Gly His 1105 Leu Gln Thr Glu Val 1185 Arg	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe	Leu Pro Glu Glu 1155 Pro Ala	Ala Ser Glu Tyr 1140 Gly Lys Phe	Val Pro Thr 1125 Val Pro Thr Gly Ala 1205 Leu	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser	Val 1099 Gln Gly Gln Pro Ser 1179 Ala	1080 Thr Arg Tyr Pro Pro 1160 Pro Val	Lys Tyr Val Glu 1145 Ile Gly Glu His	Gly Ser Ala 1130 Val Arg Lys Asn Pro 1210 Gln	Leu Glu 1115 Pro Arg Pro Asn Pro 1195 Ser	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu Pro	1085 Ser Pro Ala Gln Gly 1165 Val Tyr Ala	Leu Thr Cys Ser 1150 Ala Val Leu Phe	Ser Leu Ser 1135 Pro Thr Lys Ala Ser 1215 Gln	Pro Pro 1120 Pro Leu Leu Asp Pro 1200 Pro
Gly His 1105 Leu Gln Thr Glu Val 1185 Arg	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe Ala	1075 Leu Pro Glu Glu 1155 Pro Ala Gly Asp	Ala Ser Glu Tyr 1140 Gly Lys Phe Thr Asn 1220	Val Pro Thr 1125 Val Pro Thr Gly Ala 1205 Leu	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser	Val 1099 Gln Gly Gln Pro Ser 1179 Ala Gln Tyr	1080 Thr Arg Arg Pro Pro 1160 Pro Val Pro Trp	Lys Tyr Val Glu 1145 Ile Gly Glu His Asp	Gly Ser Ala 1130 Val Arg Lys Asn Pro 1210 Gln	Leu Glu 1119 Pro Arg Pro Asn Pro 1199 Ser	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu Pro Ser	1085 Ser Pro Ala Gln Gly 1165 Val Tyr Ala Ser	Leu Thr Cys Ser 1150 Ala Val Leu Phe Glu 1230	Ser Leu Ser 1135 Pro Thr Lys Ala Ser 1215 Gln	Pro Pro 1120 Pro Leu Leu Asp Pro 1200 Pro Gly
Gly His 1105 Leu Gln Thr Glu Val 1185 Arg	Asp 1090 Asp Pro Pro Pro Arg 1170 Phe Ala	Leu Pro Glu Glu 1155 Pro Ala Gly Asp	Ala Ser Glu Tyr 1140 Gly Lys Phe Thr Asn 1220 Ser	Val Pro Thr 1125 Val Pro Thr Gly Ala 1205 Leu	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser	Val 1099 Gln Gly Gln Pro Ser 1179 Ala Gln Tyr	1080 Thr Arg Arg Pro 1160 Pro Val Pro Trp Gly	Lys Tyr Val Glu 1145 Ile Gly Glu His Asp 1225 Thr	Gly Ser Ala 1130 Val Arg Lys Asn Pro 1210 Gln	Leu Glu 1119 Pro Arg Pro Asn Pro 1199 Ser	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu Pro Ser	1085 Ser Pro Ala Gln Gly 1165 Val Tyr Ala Ser Glu	Leu Thr Cys Ser 1150 Ala Val Leu Phe Glu 1230 Asn	Ser Leu Ser 1135 Pro Thr Lys Ala Ser 1215 Gln	Pro Pro 1120 Pro Leu Leu Asp Pro 1200 Pro Gly
Gly His 1109 Leu Gln Thr Glu Val 1189 Arg Ala Pro	Asp 1090 Asp Pro Pro Arg 1170 Phe Ala Phe	Leu Pro Glu Glu 1155 Pro Ala Gly Asp	Ala Ser Glu Tyr 1140 Gly Lys Phe Thr Asn 1220 Ser	Val Pro Thr 1125 Val Pro Thr Gly Ala 1205 Leu Thr	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser Tyr	Val 1099 Gln Gly Gln Pro Ser 1179 Ala Gln Tyr Glu	1080 Thr Arg Arg Tyr Pro 1160 Pro Val Pro Trp Gly 1240	Lys Tyr Val Glu 1145 Ile Gly Glu His Asp 1225 Thr	Gly Ser Ala 1130 Val Arg Lys Asn Pro 1210 Gln	Leu Glu 1119 Pro Arg Pro Asn Pro 1199 Ser	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu Pro Ser	1085 Ser Pro Ala Gln Gly 1165 Val Tyr Ala Ser	Leu Thr Cys Ser 1150 Ala Val Leu Phe Glu 1230 Asn	Ser Leu Ser 1135 Pro Thr Lys Ala Ser 1215 Gln	Pro Pro 1120 Pro Leu Leu Asp Pro 1200 Pro Gly
Gly His 1109 Leu Gln Thr Glu Val 1189 Arg Ala Pro	Asp 1090 Asp Pro Pro Arg 1170 Phe Ala Phe	Leu Pro Glu Glu 1155 Pro Ala Gly Asp Pro 1235 Gly	Ala Ser Glu Tyr 1140 Gly Lys Phe Thr Asn 1220 Ser	Val Pro Thr 1125 Val Pro Thr Gly Ala 1205 Leu Thr	Leu 1110 Asp Asn Pro Leu Gly 1190 Ser Tyr	Val 1099 Gln Gly Gln Pro Ser 1179 Ala Gln Tyr Glu	1080 Thr Arg Arg Tyr Pro 1160 Pro 5 Val Pro Trp Gly 1240 Val	Lys Tyr Val Glu 1145 Ile Gly Glu His Asp 1225 Thr	Gly Ser Ala 1130 Val Arg Lys Asn Pro 1210 Gln	Leu Glu 1119 Pro Arg Pro Asn Pro 1199 Ser	Gln 1100 Asp Leu Pro Ala Gly 1180 Glu Pro Ser	1085 Ser Pro Ala Gln Gly 1165 Val Tyr Ala Ser Glu	Leu Thr Cys Ser 1150 Ala Val Leu Phe Glu 1230 Asn	Ser Leu Ser 1135 Pro Thr Lys Ala Ser 1215 Gln	Pro Pro 1120 Pro Leu Leu Asp Pro 1200 Pro Gly